

SKINKS OF THE *CTENOTUS SCHEVILLI* SPECIES GROUP

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ABSTRACT

Ctenotus astarte sp. nov. and *Ctenotus serotinus* sp. nov. are described from specimens collected in the Diamantina River drainage of southwestern Queensland. These new species are members of the *Ctenotus schevilli* species group as defined herein. The related species *Ctenotus schevilli* (Loveridge) is redescribed. Superficially similar species, *Ctenotus tanamiensis* Storr, *Ctenotus hebetior* Storr and members of the *Ctenotus grandis* group, are distinguishable on details of colouration, in midbody scale counts, or nature of the supracilliary scales.

INTRODUCTION

The *Ctenotus* fauna of western Queensland is dominated by members of three species-groups (*sensu* Storr, Smith and Johnstone 1981). These are the *C. leonhardii*, *C. schomburgkii* and *C. lesueurii* species-groups. With the exception of some members of the *C. lesueurii* group (*inornatus* subgroup), all these skinks show well defined colour patterns, consisting of stripes with or without spots.

Specimens of a moderately large (adult SVL, 59–81 mm) and a smaller (adult SVL, 50 mm) *Ctenotus* recently collected in the eastern Diamantina drainage system proved of interest as they exhibited a complex dorsal pattern consisting of dark blotches with small whitish spots and dashes. Examination revealed that these specimens represented undescribed skinks closely related to *C. schevilli* (Loveridge) and that redescription of the latter was required. Furthermore, these skinks share a number of morphological characters which enables recognition of a distinct species group to accommodate them. This group (*C. schevilli* species group) is the subject of the following contribution.

Abbreviations used in text are as follows: ANWC — Australian National Wildlife Collection; NMV — National Museum of Victoria; QM — Queensland Museum; QNPWS — Queensland National Parks and Wildlife Service; SVL — snout to vent length. All measurements are recorded in millimetres. Terminology follows Storr, Smith and Johnstone (1981).

SYSTEMATICS

Ctenotus schevilli species group

Medium (SVL 50 mm) to moderately large *Ctenotus* (SVL 60 mm) with a complex dorsal

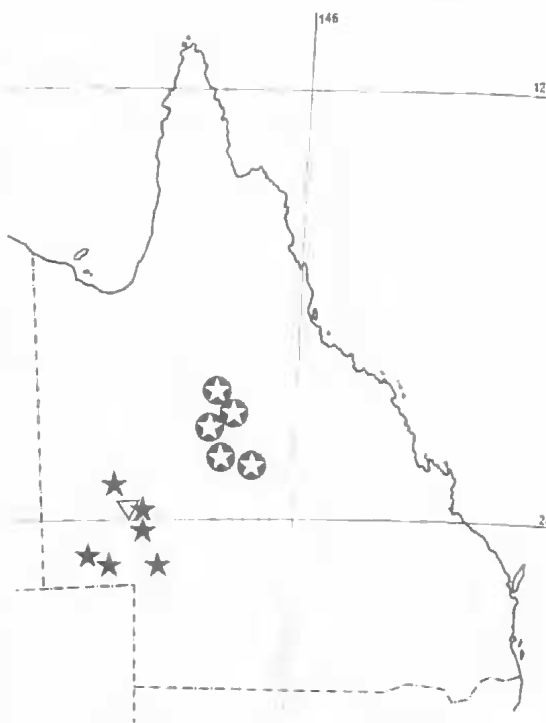


FIG. 1. Distribution of skinks of the *Ctenotus schevilli* species group (closed stars — *C. schevilli*, open stars — *C. astarte*, inverted triangle — *C. serotinus*).

pattern consisting of small pale spots or flecks with blotches of blackish pigment, with or without a dark vertebral line and lateral pattern of white spots on light brown ground colour. Three supraoculars in contact with frontal, the first two widest (subequal). First three and last two supraciliaries enlarged, first three largest. First loreal narrow, second wider and rounded anteriorly. Presuboculars usually two, sometimes three. Upper labials usually 8. Midbody scale rows 29–44. Subdigital lamellae narrowly callose to obtusely keeled.

***Ctenotus schevilli* (Loveridge)**

(Plate 1A,B, Fig. 1)

Sphenomorphus schevilli Loveridge, 1933, p. 96. Army Downs, 55 km N. of Richmond, Queensland. Holotype QM J5805.

Sphenomorphus schevilli Mittleman, 1952, p. 30; Worrell, 1970, p. 55.

Lygosoma (Sphenomorphus) schevilli Worrell, 1963, p. 58, p. 177.

Ctenotus schevilli Cogger, 1975, p. 275; Storr, 1978, p. 325–6; Cogger, 1979, p. 275.

MATERIAL EXAMINED

QM J5805 (Holotype); AM R62331, 80.1 km N. of Muttaborra on Hughenden Road; R62453, 62.4 km N. of Muttaborra; NMV D14784, 25.7 km SW. of Muttaborra; D13899–901, 57.9 km NW. of Aramac.

DIAGNOSIS

A moderately large *Ctenotus* (SVL 62–85 mm) with 40 or more midbody scale rows; nasals usually in contact; subdigital lamellae 22–25; ear lobules subacute; pattern consisting mainly of white lateral spots and dark mid-dorsal blotches, forelimbs more or less uniformly pale brown; temple with numerous white spots but no dorsolateral streak; upper labials with little or no pattern.

DESCRIPTION

SVL: (adult) 62.4–85.2 ($N = 6$, mean 73.1), (juvenile) 50.0. Length of appendages (%SVL): forelimb 24–33 ($N = 7$, mean 27.1); hindlimb 37–48 ($N = 7$, mean 42.5); tail 134–172 ($N = 7$, mean 157.2).

Snout rounded, somewhat blunt in profile. Nasals usually in contact. Nasal groove absent. Prefrontals moderately large, separate or in narrow contact. Supraoculars 4, first three in contact with frontal. Second supraocular largest or subequal with first. Supraciliaries 8–10 ($N = 7$, mean 9.0), first three and last two largest. Palpebrals 12–15 ($N = 7$, mean 13.8). Second loreal 0.7–1.4 ($N = 7$, mean 0.90) times as high as

wide. Presuboculars 2, rarely 3. Upper labials 8, rarely 9. Temporals 2 + 2 ($N = 3$) or 1 + 2 ($N = 4$). Ear lobules 5–7 ($N = 7$, mean 6.2); usually subacute; central lobules largest. Nuchals 0–6 pairs. Midbody scale rows 40–44 ($N = 7$, mean 40.8). Paravertebral scales slightly larger than adjacent series. Lamellae under fourth toe 22–25 ($N = 7$, mean 23.7), slightly compressed, moderately callose.

Dorsally pale reddish brown or olive brown. Median dorsal zone of blackish spots which may coalesce to form irregular vertebral stripe, extending to proximal third of tail. Rarely blocks of dark pigment laterodorsally. Remainder of dorsum with pale flecks. No indication of pale dorsolateral lines. Upper labials with little or no pattern. A series of short white dashes below eye. Temples and flanks and base of tail covered with white dots; dots of upper lateral zone, and sometimes in paler lower lateral zone, arranged in more or less vertical series. Forelimbs with no pattern; hindlimbs with little or no pattern. Ventrally white.

HABITAT

Black soil plains and adjacent habitats.

DISTRIBUTION

Semi-arid central Queensland from the Richmond district south to the Muttaborra and Aramac districts (Fig. 1).

***Ctenotus astarte* sp. nov.**

(Plate 1C–D, Fig. 1)

MATERIAL EXAMINED

HOLOTYPE: QM J26499 Cuddapan airstrip, Cuddapan Station, southwestern Queensland. Collected 9–23 September 1976 by J. Covacevich and C. Tanner.

PARATYPES: ANWC R0742 Paron Downs via Boulia; R3133 Cuddapan Station airstrip; NMV D56609 Davenport Downs Station, juvenile; QM J39580 Durrie Station via Birdsville (formerly QNPWS N48119); J40182 Diamantina Lakes (formerly N48152); J40183 Diamantina Lakes (formerly N48153), juvenile; J41603 Benditoota Waterhole, Durrie Station (formerly N18387); J41796 Durrie Station (formerly N18388).

DIAGNOSIS

A moderately large *Ctenotus* (SVL 60–82 mm) with 33–37 midbody scale rows; nasals usually separated; 25–27 subdigital lamellae; ear lobules usually acute; pattern complex consisting of short dashes and small dots and dark mid-dorsal blotches; short white loreal streak present and narrow, dark-edged, pale dorsolateral streak from above eye to above ear opening present. Upper labials with pale fawn or white blotches.

DESCRIPTION

SVL (adult) 59.8–81.2 (N = 7, mean 71.1), (juvenile) 35.5–45.6 (N = 2, mean 40.6). Length of appendages (% SVL); forelimb 25–35 (N = 9, mean 29.8); hindlimb 45–58 (N = 9, mean 50.8); tail 155–203 (N = 4, mean 184.3).

Snout sloping, slightly pointed in profile. Nasals separated or just contacting. Nasal groove absent. Prefrontals, moderately large, separated. Supraoculars, 4, rarely 5, first three in contact with frontal. First and second supraoculars widest, subequal. Supraciliaries 8–9 (mean 8.5) first three (sometimes four) largest, last two enlarged. Palpebrals 12–15 (N = 9, mean 13.2). Second loreal 0.5–0.9 (N = 9, mean 0.70) times as high as wide. Presuboculars 2, rarely 3. Upper labials 8 (N = 7) or 9 (N = 2), posterior pair largest. Temporal 1 + 2 (N = 8) or 2 + 2 (N = 1), upper secondary largest, rather triangular in shape. Ear opening vertically elliptical, lobules 4 to 6 (N = 9, mean 4.8), acute or subacute. Nuchals 1 to 6 pairs. MBS 32–37 (N = 9, mean 34.5). Paravertebral scales larger than adjacent series. Toes compressed. Lamellae under fourth toe, 25–27 (N = 9, mean 22.6), narrowly callose or obtusely keeled.

COLOUR

Dorsal and upper lateral surfaces greyish-brown to buffy brown. Complex dorsal pattern consisting of irregular, transverse or mid-dorsal blackish blotches and pale spots and dashes. Little or no indication of dark vertebral stripe. In some adults and juveniles dorsal pale dashes may align to form discontinuous paravertebral line. A narrow, pale dorsolateral line may be present, usually outermost white spots simply aligned dorsolaterally. Pale, dark-edged, dorsolateral streak always present from above eye to above ear opening. Upper lateral zone with numerous white dots which tend to align vertically. A short dark posterior streak may be associated with some of these; lower lateral surfaces greyish with some white spots. Short white, loreal streak present. Upper labials with pale fawn or whitish blotches posteriorly. Large whitish spots in temporal region. Legs pale, buffy brown with paler, indistinct, longitudinal stripes. Ventral surface white. The largest specimens (QM J39580, ANWC R0742) show fading of colour pattern with age. In these specimens light and dark areas tend to coalesce, forming indistinct blocks of dark and light colour.

ETYMOLOGY

Astarte was a Babylonian-Phoenician goddess

and a counterpart of Diana. The name was arbitrarily chosen.

HABITAT

The holotype was collected from a sand dune-ashy downs interface. When disturbed the skink sought shelter in a soil crevice (J. Covacevich pers. comm.). The specimens from Durrie Station were collected on gravelly downs while the Diamantina Lakes specimens were found on stony downs (G. Porter pers. comm.).

DISTRIBUTION

Arid western Queensland; particularly eastern Diamantina River drainage between Boulia and Diamantina Lakes in the north to Durrie and Cuddapan Stations in the south (Fig. 1).

Ctenotus serotinus sp. nov.

(Plate 2, Fig. 1)

MATERIAL EXAMINED

HOLOTYPE: QM J43313, 17 km SE. of Spring Valley homestead, southwestern Queensland. Collected 10–12 May, 1984 by G.V. Czechura, D. Knowles and N.W. Longmore.

PARATYPE: QM J40185 Diamantina Lakes.

DIAGNOSIS

A medium sized *Ctenotus* (adult SVL 50 mm) with 29–33 midbody scale rows; nasals in narrow contact or narrowly separated; prefrontals narrowly separated; subdigital lamellae 22–27; ear lobules usually rounded; pattern complex consisting of pale edged dark vertebral stripe from nape to base of tail, unbroken, dorsolateral stripe with commences from first supraciliary and vertically aligned white upper lateral stripe. Upper labials white with dark posterior patches.

DESCRIPTION

SVL (adult) 49.6, (juvenile) 35.5. Length of appendages (% SVL); forelimb 31.4, 30.14; hindlimb 52.8, 55.8; tail (adult) 173.2.

Snout sloping, slightly rounded in profile. Nasals narrowly separately or in narrow contact. Nasal groove absent. Prefrontals moderately large, narrowly separated. Supraoculars 4, first three in contact with frontal. Second supraocular subequal to first. Supraciliaries 8 or 9, first four largest and last two enlarged. Palpebrals 16. Second loreal 0.8–0.9 times as high as wide. Presuboculars 2, rarely 3. Upper labials 8, posterior three largest. Temporals, 1 + 2, upper secondary largest, rather triangular in shape. Ear opening obliquely elliptical, lobules 4 or 5, subacute to rounded. Nuchals 4 pairs. Midbody

scale rows 33 (adult), 29 (juvenile). Narrowly to widely callose subdigital toe lamellae; 27 (adult), 22 (juvenile) below fourth toe. Toes slightly compressed.

COLOUR

Adult colouration: ground colour of dorsum olive-brown with ragged edged blackish vertebral line from nape to base of tail. Vertebral line narrowly edged by very narrow, pale paravertebral lines. A few widely scattered small white spots along outer edge of dorsal zone. Pale laterodorsal and dorsolateral stripes almost in contact, giving impression of broad pale band. Laterodorsal stripe commences above forelimb. Dorsolateral stripe commences from first supraciliary. Both stripes form broad diffuse band behind hindlimb. Upper lateral zone olive-brown with series of white spots more-or-less vertically aligned. Short, dark posterior streaks may be associated with these. Lower lateral surfaces greyish, merging with white ventral colour. Some indication of a broad, diffuse mid-lateral stripe. Temporal region olive. Short white loreal streak present. Upper labials white with dark pigment posteriorly (olive with fine black peppering). Limbs light brown indistinctly striped with dark brown.

Juvenile colouration: similar to adult but more sharply patterned. Vertebral line sharply edged with distinct paravertebral stripes. Dorsolateral line broad incorporating laterodorsal line. Midlateral stripe from midbody to tail, a series of white spots between ear opening and midlateral line. Whitish stripe from nostril to ear opening.

ETYMOLOGY

Serotinus is latin for 'late happening', thus serving as an allusion to *C. serotinus* being the most recently discovered member of the complex.

HABITAT

The holotype was collected from a gravelly downs and sand-dune interface. The paratype was collected on a sandhill.

DISTRIBUTION

Arid western Queensland in the vicinity of Diamantina Lakes. (Fig 1).

COMMENTS

The only species of *Ctenotus* which may be confused with *C. astarte*, *C. serotinus* and *C. scheyvilli* are *C. tanamiensis* Storr, *C. hebetior* Storr (both members of the *C. leonhardii* species-group) and members of the *C. grandis* species-group.

The former species, *C. tanamiensis*, does not

occur in Queensland (Storr 1970; Storr, Smith and Johnstone 1981). It is separable from both *C. scheyvilli* and *C. astarte* by the presence of vertebral and paravertebral stripes as well as a lower (28-32) midbody scale count. *C. tanamiensis* may be distinguished from *C. serotinus* easily by colour pattern, as the vertebral line extends beyond the base of the tail, regularly spaced light dorsal spots may be present and the dorsolateral line is broken. The ground colour of the former species is brown while the latter is olive-brown.

Ctenotus hebetior Storr is readily distinguishable by the presence of five dark stripes dorsally and reddish rather than olive-brown or grey-brown colouration (Storr 1978). *C. hebetior* occurs in sympatry with *C. astarte*, *C. serotinus*, and possibly *C. scheyvilli* in some areas.

Skinks of the *C. grandis* species group (*C. g. grandis* Storr, *C. g. titan* Storr and *C. hanloni* Storr) are all distinguishable by their dorsal pattern of five dark stripes and fourth to penultimate supraciliaries noticeably smaller than the rest (Storr 1980). These skinks do not occur in Queensland.

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PLATE 1.

Colour variation in member of the *Ctenotus schevilli* species group. Scales in millimetres.

A-B *Ctenotus schevilli* (Loveridge).

A. (AM R62453, 62.4 km N. of Muttaborra). Note indistinct, dark, transverse bars across vertebral region. **B.** (AM R62331, 80.1 km N. of Muttaborra). Note concentration of dark pigment along vertebral line.

C-D *Ctenotus astarte* sp. nov.

C. (QM J26499, Cuddapan airstrip, Cuddapan Station, Holotype). Note presence of pale series of dorsolateral spots forming indistinct stripe. This 'stripe' is continuous with dorsolateral streak above temporal region. The distinct pattern is typical of smaller individuals. **D.** (QM J39480, Durrie Station via Birdsville, Paratype). Note indistinct pattern typical of larger individuals and indication of dorsolateral streak and series of spots.

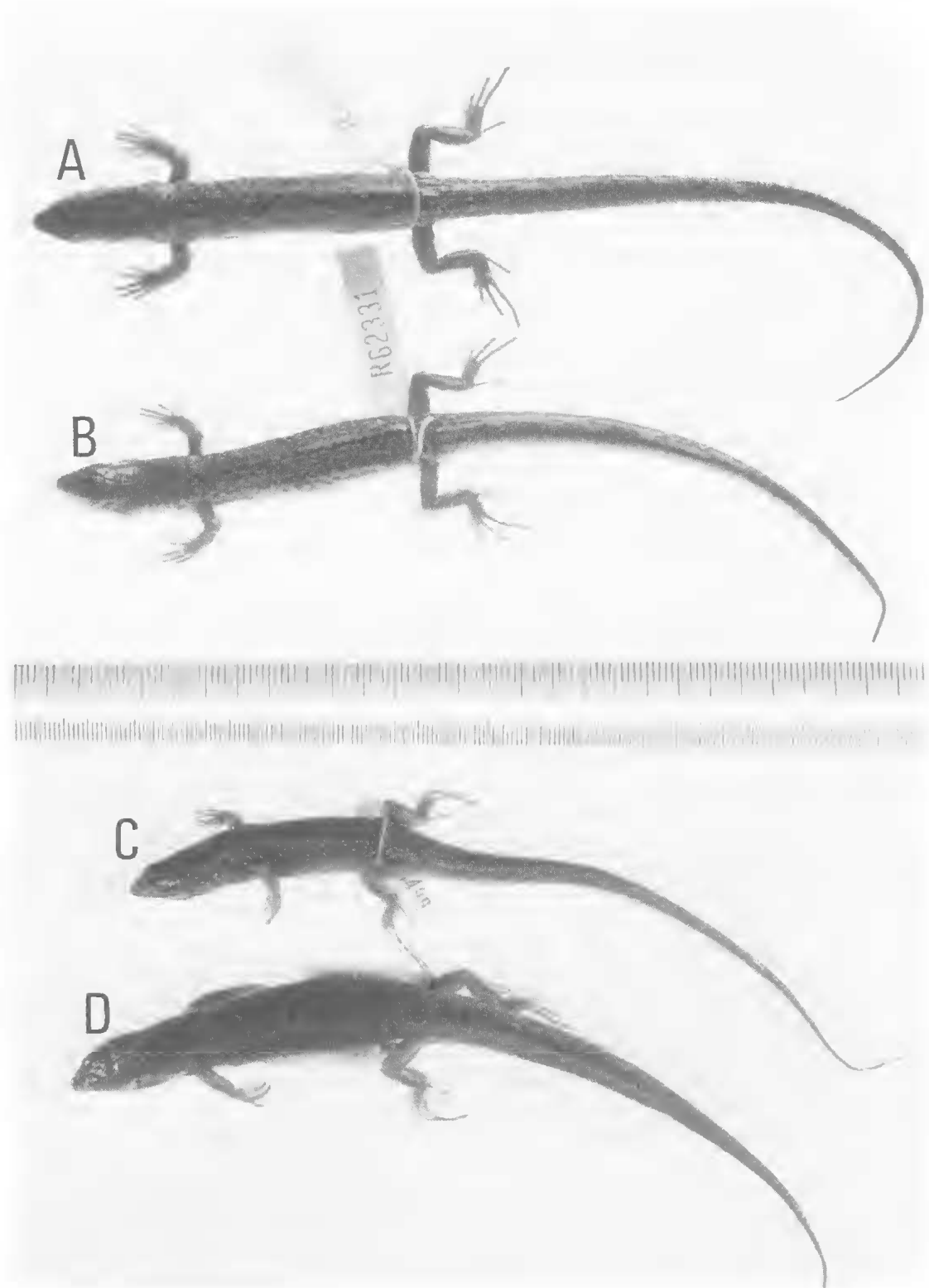


PLATE 2

Ctenotus serotinus sp. nov. QM J43313 (Holotype), 17 km SE. of Spring Valley homestead, SW. Queensland. (Photo D. Knowles).

